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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT

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COUNTRY	USSR		
SUBJECT	Instructions of the Chief Directorate of Maritime Routes, MMF, for Improving Dredging Operations	NO. OF PAGES	3
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SOURCE

1. Despite repeated instructions on the part of the Ministry of the Merchant Fleet to peripheral organizations for improving the quality of dredging operations, the situation concerning this problem continued to be very tense up to 1950. This tenseness was particularly in evidence on the Volga-Caspian and the Ural-Caspian channels due to the urgency of cargo movements on these routes. For example, the Ural-Caspian channel would occasionally become impassable during the navigation season. As a result of this, extremely crucial shipments of gas oil from Baku to Gurev for Zavod #441 were disrupted. Moreover, unsatisfactory performance of dredging caravans gave rise to needless expenditures of capital because of revisions and arbitrarily fixed dredge-master tolerances. These tolerances were set at an absolute minimum depth and width of the channel and when the dredging had been completed for any distances less than these minimums the work was declared unsatisfactory and unacceptable. At the beginning of the navigation season (April) of 1950 a directive was issued with the aim of improving dredging operations.

2. In drafting a plan for dredging operations all margins which are in excess of the draft of the dredger are included in the planned depth of the channel. Thus margins are added to the draft of the vessel for silting of the canal, turbulence of the water, and speed of the dredger transiting the channel. Since it is virtually impossible to dredge exactly as specified in the plans, the dredge-master is given an allowance over and above the specifications in the plans. Thus, the dredge-master is allowed to dredge a specified amount in excess of the planned size of the channel and still be paid for the excess amount. However, if he dredges beyond this allowed margin, he is not paid for the amount by which he exceeded the tolerance. The result is that if the dimensions of the channel are less than specified in the plan the client may reject the work as unsatisfactory, and if the amount of earth dredged exceeds the tolerance allowed over the specifications, then the client need not pay for this excess dredging.

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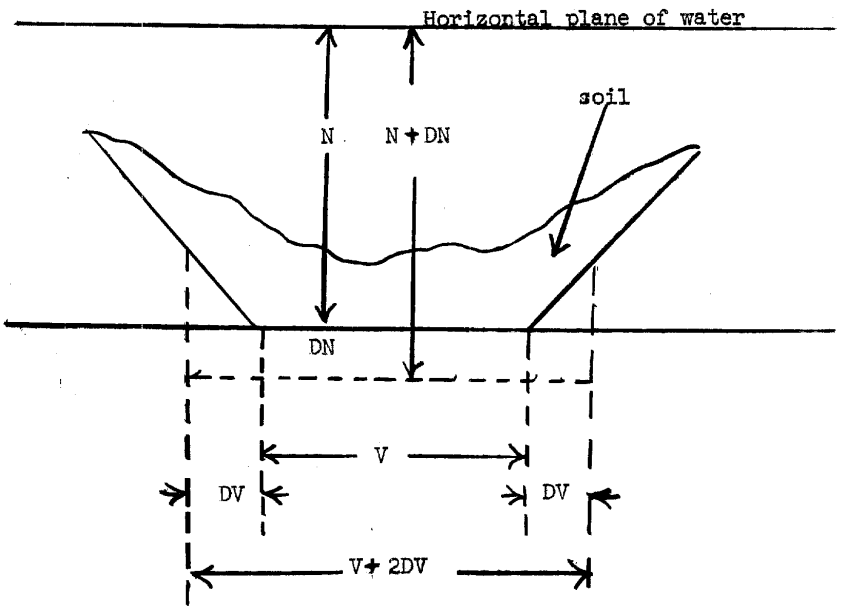
3. Sketch of a channel cross-section.



N - Planned depth of the Channel

DN - Depth margin of the dredge-master

V - Planned depth

DV - Horizontal margin of the dredge-master

V - 2DV + Operational width

N - DN + Operational depth

4. The amounts of the dredge-masters margins vary by locality, type of dredger and also for the direction of the dimension (vertical or horizontal).

Margins for depths:

(a) Southern ports of the Caspian Sea.
Hydraulic dredges - 30 centimeters
Dipper dredges - 20 centimeters

(b) Volga-Caspian and Ural-Caspian channels.
Hydraulic and dipper dredges both 15 centimeters 50X1

(c) Sea of Azov
Hydraulic and dipper dredges both 15 centimeters

(d) Seas of the northern basin.
Hydraulic and dipper dredges both 20 centimeters.

(e) In special cases, depending upon the type of bottom, the margin is increased to as high as 50 centimeters. For example, in the case of an extremely rocky bottom where large boulders are encountered an unusual margin of 50 centimeters might be allowed.

5. The directive has established certain measures for avoiding waste in the performance of dredging operations resulting from either shortages or surpluses or earth dredged.

(a) The drafting and issuance of exhaustive technical documentation of a specified scale for dredging operations in which the following must be shown:

(1) Dredging boundaries.
(2) Operational width of the cut.
(3) Planned depth
(4) Depth and width allowances.
(5) Readings of the operational level.
(6) Soundings plan.

(b) It is absolutely forbidden to initiate dredging operations without technical documentation or with non-qualitative documentation.

(c) Before initiation of operations the following mechanical factors are to be eliminated lest they lower the quality of the work:

(1) Accumulation of earth in the pit of the scoops of the dredger as a result of improper maintenance of the equipment.
(2) Loss of earth from the soil-removing screws.
(3) Loss of earth through faulty transfer pump couplings.
(4) Loss of soil from the dumping area back into the channel because of either defective shoring in the dumping area or a defective spillway gate.
(5) Damage to the water-measuring control guage.
(6) Fluctuation in the draft of the dredge unit because of expenditures of fuel and water supplies.

In the event that these factors occur in the process of operations, corrective measures should be undertaken at once.

(d) Provision for a regular inspection of the condition of the depth of the channel after dredging.

The dredge-master must make this inspection without waiting for the arrival of a sounding party. This sounding is performed continually as the dredger progresses along the channel. Soundings must be taken at distances of 50, 100, and 200 meters behind the stern of the dredger.

(e) Maximum effort to meet the channel specifications of the technical plan and not use the full amount of the allowed margin if possible, and above all not to exceed the margin.

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